



THE LONDON SCHOOL
OF ECONOMICS AND
POLITICAL SCIENCE ■

Economic History Working Papers

No: 185/2014

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No. 185- JANUARY 2014

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Abstract

This paper studies demand for commercial medical assistance in early modern England. We measure individual consumption of medical and nursing services using a new dataset of debts at death between c.1670-c.1790. Levels of consumption of medical services were high and stable in London from the 1680s. However, we find rapid growth in the provinces, in both the likelihood of using medical assistance, and the sums spent on it. The structure of medical services also shifted, with an increase in ‘general practice’, particularly by apothecaries. The expansion in medical services diffused from London, and was motivated by changing preferences, not wealth

JEL Codes: N33, N30, O14, I10, I190

Keywords: health; service sector; health care; Britain; seventeenth century; eighteenth century

Acknowledgements: The authors are extremely grateful to Maureen Wallis for her generous and industrious research assistance and Albane Forestier for her diligent assistance on the initial pilot on probate accounts. Ian Mortimer kindly supplied a copy of his PhD thesis, which helped us greatly. The paper has benefited greatly from the generous comments of participants at the ‘Europe’s Medical Revolutions. Markets and Medicine in Early Modern Europe’ workshop at the LSE in January 2013.

When did the English come to rely on commercial or professional medical practitioners to help them respond to illness? What led the sick and their families to purchase external expertise? How did medical practitioners respond to changes in demand? These are basic issues for our understanding of social responses to sickness, the organisation of medical occupations, and the development of services more generally. Speaking broadly, we can think of two waves of thought on them. The first, apparent in early studies of medical history, generally linked medical demand to scientific advances. These scholars expected little medical provision before the nineteenth century, when medicine began to 'work'; and to the extent that they considered medical practice aside from medical ideas they observed little.¹ The second, articulated paradigmatically by Margaret Pelling and Charles Webster and extended in detail by Pelling and other scholars, emphasised the scale and varied nature of medical assistance available at an early date in preindustrial England.² They uncovered a medical world in the Tudor and Stuart period that was dense and diverse. However, they largely left open the question of how the mix of medical provision they observed changed over the next two centuries, and the extent to which the scale and nature of sixteenth-century medical consumption matched that found in later periods.

¹Erwin Heinz Ackerknecht, *A short history of medicine* (New York: Ronald Press Co, 1955), pp. 215-7; Fielding H. Garrison, *An Introduction to the History of Medicine with Medical Chronology, Suggestions for Study and Bibliographic Data*, 4th ed. (Philadelphia: W. B. Saunders Co., 1929), pp. 244-406; Arturo Castiglioni, *A history of medicine*, trans. E. B. Krumbhaar, 2nd ed. (London: Routledge & Kegan Paul, 1947), pp. 504-650; Edward Shorter, "The history of the doctor-patient relationship," in *Companion Encyclopedia of the History of Medicine*, ed. W. F. Bynum and Roy Porter (London: Routledge, 1993), pp. 783-7.

²Margaret Pelling and Charles Webster, "Medical Practitioners," in *Health, Medicine and Mortality in the Sixteenth Century*, ed. Charles Webster (Cambridge: Cambridge University Press, 1979); Margaret Pelling, "Medical Practice in Early Modern England: Trade or Profession?," in *The Professions in Early Modern England*, ed. Wilfred Prest (London: Croom Helm, 1987). Margaret Pelling, *The Common Lot: Sickness, Medical Occupations and the Urban Poor in Early Modern England* (London: Longmans, 1998); Margaret Pelling, *Medical conflicts in early modern London: patronage, physicians, and irregular practitioners 1550-1640* (Oxford: Oxford University Press, 2003). Other notable contributions include: Lucinda McCray Beier, *Sufferers and Healers: the experience of illness in seventeenth-century England* (London: Routledge & Kegan Paul, 1987), pp. 8-50; Harold J. Cook, *The decline of the old medical regime in Stuart London* (Ithaca: Cornell University Press, 1986). Faye Getz, *Medicine in the English Middle Ages* (Princeton: Princeton University Press, 1998).

Much of the research that followed revealed similarly rich tapestries of medical provision in specific periods and locales³. This is not to say that historians of medicine neglected change entirely. Questions of continuity and change remained central to studies of medical thought, and many did argue that the importance of professional or commercial medicine grew during the period they observed, whether the seventeenth, eighteenth or nineteenth centuries. In this, the growth of the market economy was often assigned a key role, assumed to be affecting medicine as it did other areas.⁴ But it is rare to find a metric with which the degree of change could be compared over these centuries. In most studies that do attempt to pin down transitions, as for example in Irvine Loudon's work on general practitioners, much of the explanation of change is put in the hands of practitioners who are invading others' fields, or who are over or under-stocked relative to demand at a particular point in time.⁵ The only really comparable figures in this literature are ratios of numbers of practitioners to

³Matthew Ramsey, *Professional and popular medicine in France, 1770-1830: the social world of medical practice* (Cambridge: Cambridge University Press, 1988), pp. 18-38; David Gentilcore, *Healers and healing in early modern Italy* (Manchester: Manchester University Press, 1998). Irvine Loudon, *Medical care and the General Practitioner 1750-1850* (Oxford: Oxford University Press, 1986). Dorothy Porter and Roy Porter, *Patient's progress: doctors and doctoring in eighteenth-century England* (Oxford: Polity, 1989). Andrew Wear, *Knowledge and Practice in English Medicine, 1550-1680* (Cambridge: Cambridge University Press, 2000). Mary Lindemann, *Health and healing in eighteenth-century Germany* (Baltimore 1996). M. R. McVaugh, *Medicine before the plague: practitioners and their patients in the Crown of Aragon, 1285-1345* (Cambridge: Cambridge University Press, 1993).

⁴ See, for example, Cook, *Decline*, pp. 34-35; Laurence Brockliss and Colin Jones, *The Medical World of Early Modern France* (Oxford: Clarendon Press, 1997), pp. 23-24; Porter and Porter, *Patient's progress: doctors and doctoring in eighteenth-century England*, pp. 9-10; Roy Porter, "The eighteenth century," in *The Western medical tradition, 800 BC to AD 1800*, ed. Lawrence I. Conrad, et al. (Cambridge: Cambridge University Press, 1995), pp. 451-2; Anne Digby, *Making a medical living: doctors and patients in the English market for medicine, 1720-1911* (Cambridge: Cambridge University Press, 1994), pp. 2, 26, 40-41; R. K. French, *Medicine before science: the rational and learned doctor from the Middle Ages to the Enlightenment* (Cambridge: Cambridge University Press, 2002), p. 188. Cf. Pelling, *medical conflicts*, pp. 7-9.

⁵ Eg: Loudon, *Medical Care*, pp. 22-23. See also: Digby, *Medical Living*; Ivan Waddington, *The medical profession in the Industrial Revolution* (Dublin: Gill and Macmillan, 1984); Toby Gelfand, "The history of the medical profession," in *Companion Encyclopedia of the History of Medicine*, ed. W. F. Bynum and Roy Porter (London: Routledge, 1993), pp. 1124-1125, 1134-5; Michael Brown, *Performing medicine: medical culture and identity in provincial England, c. 1760-1850* (Manchester: Manchester University Press, 2011), pp. 115-6. Ramsay, *Professional and Popular*, pp. 58-62, 115-8

population.⁶ The insight that they offer – and this is usually of a high density of practitioners – tells us a great deal about supply, but less about demand and how it was met. Patient to practitioner ratios also raise profound questions of method and interpretation: density of practitioners can be interpreted as indicating fragmentation, low productivity and underemployment as easily as indicating specialisation, high demand, and opportunity.

While these studies have given us deep insights into medical practice, they provide only limited answers to the basic questions we set out above about changes in the level, composition and causation of people's use of medical care over time. In this, they possess a parallel to work on consumption more generally, which has also struggled to specify the scale and causal framework behind repeated observations of growing consumption in different periods.⁷ Framed at their most general – were the sick as likely to turn to medicine in the sixteenth century as they were in the nineteenth, or did they choose other responses, perhaps stoicism or prayer – these questions probably become unanswerable in practice. The instability of sickness as a category and the lack of evidence on morbidity would likely sink such an enterprise, even before we raise the question about whether medicine's goal shifts from preserving health to treating sickness.

However, we can perhaps gain more traction on a more narrowly specified version of this question: were the sick more or less likely to engage with paid-for medical care in the sixteenth century than the nineteenth century? The limitations of this question are obvious: it tells us nothing except by inference about medical care provided by family, friends, neighbours and community; it relies solely on the sick's own definition of medical need; it tells us nothing about medical practitioners' roles in times of health; and, of course, it tells us nothing about the cultural meanings of care or the influences that shaped the decision to resort to commercial medicine. Yet this narrowness also has benefits if our aim is unpacking the development of medicine over time. By focusing on care that was obtained, we are dealing with individuals' revealed preferences, which are perhaps easier to compare across time than the meanings of consumption, and we are concerning ourselves with the sick's

⁶ For the most influential application of this, see Pelling and Webster, 'Medical Practitioners'. The approach was then widely applied: eg. Digby, *Medical Living*, ch. 1; Brockliss and Jones, *Medical World*, pp. 521-9.

⁷ See the useful review in Jan De Vries, *The industrious revolution : consumer behavior and the household economy, 1650 to the present* (Cambridge: Cambridge University Press, 2008)..

utilisation of a mode of provision that – through the cash nexus – can be observed and defined relatively precisely.

Recent work has made some significant moves towards identifying changes in the demand for medical care in England. In particular, Ian Mortimer's exploration of probate accounts in provincial Southern England, especially East Kent, offers a measure of shifting demand over the seventeenth century that leads him to identify a 'medical revolution' in this period.⁸ Mortimer links changes in care to wider shifts in attitudes to death and religion. Wallis's study of the importation of medical drugs into England gives a similar indication of rapid growth in consumption of medicine in the seventeenth century, and suggests that access to therapeutic resources may have been fundamental.⁹ It also suggests that changes in demand were a longer-term process than can be seen in the East Kent data, which tails off in the early eighteenth century: drug imports saw continued growth over the eighteenth century.

This paper moves beyond these studies by exploring shifts in medical demand during the century after Mortimer's 'medical revolution', using a substantial new sample of probate accounts from the long eighteenth century. We provide new estimates for levels of demand in London and southern provincial England and analyse changes in the structures and intensity of medical provision through a discussion of practitioners' identities and interactions. Our findings suggest a more extended medical revolution than Mortimer posited, apparent in both the rising probability that the deceased had used medical care and the amount they expended on it. We also show that changes in demand were accompanied by striking shifts in the organisation of medical supply. To set this into a more general context, we shed substantial new light onto the growth of 'professional' services in a period in which the services sector aspect of the economy is increasingly identified as rapidly expanding, but for which sources remain remarkably limited.¹⁰

⁸Ian Mortimer, *The dying and the doctors : the medical revolution in seventeenth-century England* (Woodbridge, Suffolk: The Boydell Press, 2009). Ian Mortimer, "The Triumph of the Doctors : Medical Assistance to the Dying, c. 1570-1720," *Transactions of the Royal Historical Society* 15(2005); Ian J. F. Mortimer, "Medical assistance to the dying in provincial southern England, c1570-1720" (PhD, University of Exeter, 2004).

⁹ Patrick Wallis, "Exotic Drugs and English Medicine: England's Drug Trade, c. 1550–c. 1800," *Social History of Medicine* online early(2011)..

¹⁰ S. N. Broadberry et al., "British economic growth, 1270-1870: An output-based approach," (2010); Leigh Shaw-Taylor and E. A. Wrigley, "Occupational structure and population change," in *The Cambridge Economic History of Modern Britain*, ed. Roderick Floud, Jane Humphries, and Paul Johnson (Cambridge: Cambridge University Press 2014).

Sources

The main sources that we use in this paper are accounts prepared by executors or administrators (in cases of intestacy) as the final stage in the process of administration. Probate accounts record the initial value of the deceased's personal estate ('the charge'), and then various payments made by the administrator for the deceased's debts, which often include funeral costs and medical expenses.¹¹ Accounts were generally created when problems arose during probate, such as conflicts over the estate, intestacy, or high levels of debt. They were rarely recorded or retained systematically by the courts, and are far rarer than wills or inventories. The accounts that survive are usually the official copy made by the court clerk. Clerical 'tidying up' might compress or extend the details recorded, and the format and content of accounts differs between church courts. After 1685 accounts could only be demanded 'in behalf of a minor... a Creditor or next of Kin'; this change in the law led to a dramatic reduction in the number that survive. In the eighteenth century only around 40 accounts per year survive from courts other than the Prerogative Court of Canterbury.¹²

The accounting process was set down in the late sixteenth century by Henry Swinburne and changed little thereafter.¹³ Any debt of over £2 had to be substantiated by an acquittance or cancelled bonds. Smaller debts could be attested to by the accountant's oath. Debts were to be paid in a specific order: to the crown, then on legal judgement, statutes merchant and recognisances; obligations; and finally simple bills and shop books. Debts without specialty (not in writing) were repaid last. Administrative and legal costs during probate could also be claimed. Usually, accounts were entered within a year or two of death. Where orphans

¹¹ Clare Gittings, *Death, burial and the individual in early modern England* (London: Croom Helm, 1984); Amy Louise Erickson, *Women and property in early modern England* (London: Routledge, 1993); Ralph Houlbrooke, *Death, Religion, and the Family in England, 1480-1750* (Oxford: Clarendon Press, 1998); Peter Spufford, *Index to the probate accounts of England and Wales*, The index library (London: British Record Society, 1999)..

¹² Ian J. F. Mortimer, "Why were probate accounts made? Methodological issues concerning the historical use of administrators' and executors' accounts," *Archives* 31(2006); Amy Louise Erickson, "Using probate accounts," in *When Death Do Us Part: Understanding and Interpreting the Probate Records of Early Modern England*, ed. Nesta Evans, Tom Arkell, and Nigel Goose (Oxford: Local Population Studies, 2000); Jacqueline Bower, "Introduction to Probate Accounts," in *Index to the Probate Accounts of England and Wales*, ed. Peter Spufford (London: British Record Society, 1999).

¹³ Henry Swinburne, *A briefe Treatise of Testaments and last willes* (London: J. Windet, 1590). , part 6, sect 8, p. 229. The 1677 edition amplifies the list of order of payment. See also Richard Burn, *Ecclesiastical Law*, The third edition. ed. (London: T. Cadell, 1775). , vol. 4, pp. 229-262.

survived, the account might not be filed until the child was of age. Roughly three-quarters of the accounts analysed here were filed within two years of death, and less than 10% were filed more than ten years after death.¹⁴

Accounts were not generated randomly, and the issues that led to their creation will affect the population represented. That said, it is unlikely that any of these factors affect the deceased's propensity to seek medical services. Indeed, if intestacy reflects sudden death, then we may expect these accounts to under-record demand. They certainly reflect very different manners of death, from protracted illness – one mentions a sickness which 'continued thirty-two weekes' – to suicide.¹⁵ Nonetheless, accounts are clearly biased as a sample of the English population. The majority are for male deceased.¹⁶ Few survive from the poor, as they were not used where the deceased lacked goods worth over £5.¹⁷

A significant concern for us is the extent to which payments for medical and nursing services were recorded. Accounts record services for which payment had not been made at the time of death. If doctors were paid at each visit, or medicines were purchased with cash, then they will be omitted. Evidence of this can be found in some accounts which mention partial repayments.¹⁸ So, the apothecary Mr Wood received £6 'in part of his bill',¹⁹ and the apothecary Mr Varenne received £8 as 'the balance of his bill'.²⁰ We also find one case of a messenger paid for 'going to the doctor' where no debt to the doctor is recorded.²¹ Indeed, the only description of deathbed care for a testator that we have found outside an account was not matched by debts in their account.²² Payments could also have been reduced or negated by death if a conditional contract in which fees depended on a cure had been used or if

¹⁴ The rate is similar in other jurisdictions: Mortimer, 'Medical Assistance', p. 78.

¹⁵ The National Archives (hereafter TNA), PROB 31/1/5

¹⁶ Bower, 'Introduction', pp. xxix-xxx.

¹⁷ Mortimer, *Dying*, pp. 5-6.

¹⁸ Mortimer, *Dying*, pp. 8-9.

¹⁹ TNA, PROB 31/100/33. See also: PROB 31/121/603 ('in part'); PROB 31/130/507 ('part of').

²⁰ TNA, PROB 31/189/447

²¹ TNA, PROB 31/190/493

²² TNA, PROB 5/5373 (Elias Pledger); Dr Williams' Library, 'Elias Pledger's Diary', MS 28.4, f.1. In our defence, the account is brief, only mentioning funeral expenditure because these costs had been withheld by a creditor, and Pledger's son, Elias junior, who later recorded this in the front of his diary, was eleven and away at school at the time of his father's death.

practitioners eschewed fees in favour of 'gifts'.²³ Medical services funded by third parties – institutions, poor law provision, box clubs and societies – would also be invisible.

In practice, the impact of these problems is likely to be limited. Trade credit was ubiquitous in Britain during this period.²⁴ We would certainly expect retrospective billing where care was ongoing, as in nursing or medical attendance.²⁵ Institutional provision was largely for the poor, who are unlikely to appear in our sample. The use of conditional contracts for medical services may have changed, although Pelling suggests any shift probably occurred in the first half of the seventeenth century.²⁶ While we cannot exclude the possibility that these factors affect our results, it still seems reasonable to see the accounts as offering a fair proxy for trends in medical consumption over time.

Even where medical debts are recorded, we face challenges in interpreting them. First, we are not always sure that debts relate to the final illness. That care was provided at death is specified in about a quarter of medical debts and half of nursing debts.²⁷ Others are less precise: a debt 'due... at the time of his death' may be for a different illness, for example.²⁸ Many entries just report the creditor's occupation,²⁹ or state that it was his 'bill' or 'fee'. We cannot be certain that these debts relate to medical services, given that practitioners may have used multiple trades.³⁰ For want of a way to distinguish these alternatives, we take all debts to medical practitioners and nurses as probably relating to the final illness. Second, accounts are often vague, referring to necessities or watching which may not relate to the deceased, and

²³ Pelling, *Medical Conflicts*, pp. 245-73; Gianna Pomata, *Contracting a cure: patients, healers, and the law in early modern Bologna* (Baltimore: Johns Hopkins University Press, 1998)..

²⁴ Craig Muldrew, *The economy of obligation: the culture of credit and social relations in early modern England* (Basingstoke: Macmillan, 1998); Margot C. Finn, *The character of credit : personal debt in English culture, 1740-1914* (Cambridge ; New York: Cambridge University Press, 2003)..

²⁵ Mortimer, *Dying*, p. 9.

²⁶ Pelling, *Medical Conflicts*, pp. 245-74.

²⁷ Medical: 314 of 1189 entries; Nursing: 236 of 413 entries.

²⁸ Mortimer suggests that debts to medical practitioners on 'book' or on 'bond' may be particularly likely to relate to services provided long before the final sickness and death of the deceased and so excludes these from some of his analysis. I include these, as book debts relate to the recording of transactions not their timing, and have a priority in the probate process that implies that this terminology need not relate to claims on the estate that were more distant in time from death than non-book debts.

²⁹ This occurs in 135 of the account entries used here

³⁰ Mortimer, 'Assistance', p. 81. Patrick Wallis, "Competition and Cooperation in the Early Modern Medical Economy," in *Medicine and the Market in England and its Colonies, 1450-1850*, ed. Mark Jenner and Patrick Wallis (London: Palgrave, 2007).

may have occurred after death. Debts are often bundled together making it difficult to evaluate the price of services. Occupations are not always given for creditors, so we may miss some medical debts. While frustrating, there is no evidence or reason to suggest that the impact of these problems is changing over time in a way that would undercut the potential to take debts in accounts as a proxy for developments in medical consumption.

The accounts we examine here were presented to the Prerogative Court of Canterbury (PCC). This had jurisdiction over the province of Canterbury, which covered most of southern and western England, and dealt with all probates where 'noteworthy' goods – generally taken as goods over £5, or £10 in London - were left in more than one diocese.³¹ We took a large random sample of 1,416 accounts by searching within surviving files in the three main record series.³² Of these, the 1,209 legible and complete accounts that fall into one of three sub-periods, the 1670s (1670-90), the 1720s (1720-1740) and the 1780s (1775-1800), are used to achieve a sense of chronology over the long eighteenth century. The sample distribution is shown in figure 1.³³

INSERT FIGURE 1 (SAMPLE) NEAR HERE

Accounts surviving in the PCC appear to have often related to disputes around administration. They differ from accounts in other diocesan archives in that they are longer, sometimes omit the charge or final balance, and are more often incomplete. A significant minority of PCC accounts lack any details of the personal or household expenses of the deceased. Mortimer suggests such accounts often appear when the executor was unwilling to act.³⁴ In order to correct for this, we distinguished a sub-sample of 'detailed' accounts which contain funeral expenses. As all estates faced funeral expenses, we take their presence as indicating that the executor had a detailed knowledge of – and desire to record – household debts.

³¹ Cox and Cox, 'probate, 1500-1800'.

³² Three series are used here, TNA, PROB 5, PROB 31 and PROB 32. PROB 5 is well indexed, but accounts in PROB 31 were identified by sifting through mixed boxes of probate records. Consequently, only a proportion of surviving accounts were identified, and a detailed indexing of PROB 31 would uncover more.

³³ Figure 1 only reports the 1266 accounts which have a year of filing recorded. The remaining accounts are allocated to the sample period based on other internal evidence of date or their position in the court files.

³⁴ Mortimer, 'Assistance', pp. 69-70.

The deceased people whose estates were detailed in these accounts were largely wealthy men from London and its periphery, plus a smaller number from the provincial elite.³⁵ More than half of the deceased lived in and around London, either in the city itself, Middlesex or metropolitan Surrey. The remaining accounts were widely spread, with 10% from the South West, 7% from East England, and 3% from the West Midlands. More than one in ten of the deceased was described explicitly as a gentleman or aristocrat.³⁶ Occupations were given for only 277 of the deceased, but show clusters of clergy (25), yeomen (19), and merchants or factors (17). It seems likely that many gentry fit Everitt's 'pseudo-gentry' category.³⁷ For example, William Lilly was described as esquire in his account, but elsewhere is identified as an apothecary. His level of indebtedness – several thousand pounds at death – suggests the distinction is moot. A number of the deceased were sufficiently prominent that they can be traced in other sources, including at last five members of parliament, Joseph Martin, one of the leading figures in the New East India Company and South Sea Company, and Thomas Hodges, one-time attorney-general for Barbados.

While there can be little doubt that most of the deceased were wealthy, it is hard to estimate their actual wealth. Accounts usually mention the 'charge', the value of the deceased's estate from the probate inventory. This is a partial window into wealth, excluding most real property, using sometimes questionable valuations for goods, offering only a snapshot of possessions, and potentially omitting or undercounting moveable property such as cash. Nonetheless, it gives us some guide to individual's relative position within the sample, and offers a proxy for income and wealth more generally. Over half the deceased recorded a charge in excess of £400. Some were extraordinarily wealthy: a quarter had charges over £1000 and a handful in excess of £10,000. At the other end, sixteen accounts had charges below £10. The charge also suggests that the composition of the group leaving accounts changed over this period: while the average charge of those who died in London fell slightly over the century, the charge in accounts from elsewhere rose substantially.³⁸ To put the PCC sample in context, figure 2 compares the charges in the PCC accounts from the 1670s with

³⁵ Ten percent were women (124 of 1209). Gender was inferred from forename. The 72 people who died abroad or at sea were excluded

³⁶ 13 percent were gentry, including gentlemen (41), esquires (86), knights (10). Fourteen were titled aristocrats.

³⁷ Alan Everitt, "Social mobility in early modern England," *Past & Present* 33, no. 1 (1966).

³⁸ The mean and median charges in provincial accounts were £903 and £383 respectively in the 1670s and £1,602 and £732 in 1780s; in London they were £1,581 and £402 in the 1670s and £1,402 and £386 in the 1780s.

those in two other major series, for East Kent and Lincolnshire. In both, the median charge in the 1670s was around £80, a fifth of the £416 median charge in the PCC accounts.³⁹

INSERT FIG. 2. CHARGES IN LINCOLNSHIRE, EAST KENT AND PCC ACCOUNTS, 1670S
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Demand for medical and nursing services, 1670-1780

The most direct way in which accounts provide us with an answer to our question of when the English came to rely on commercial medical practitioners in times of sickness is given by the frequency with which they record the dying owing debts for medical and nursing services in the long eighteenth century. In simplest terms, the accounts suggest that substantial growth occurred in the likelihood that the sick sought some medical or nursing assistance, as is shown in table 1.⁴⁰ Among detailed accounts, three-quarters of deceased owed a medical or nursing debt in the 1780s, a surprisingly high figure given our expectation that accounts will under-record medical debts.⁴¹

INSERT TABLE 1 (**Demand for medical and nursing services**) NEAR HERE

Nursing and medical demand followed divergent patterns. Demand for medical services was relatively flat in the first half of the long eighteenth century. In both the 1670s and 1730s, around half of the deceased owed debts for medical services. By the 1780s, however, 60 to 65 percent owed debts for medical services. In contrast, only twenty to thirty per cent of accounts mention debts for nursing, with the incidence rising to the 1730s and then falling.

Our sample covers a wide area of southern England and captures some variation in wealth, albeit mostly between the well off and the rich. Both wealth and geography could affect an individual's propensity to seek out medicine and nursing, influencing their capacity to pay for care, the availability and nature of services, and their norms and expectations about

³⁹ Bower, 'Introduction', pp. lviii, lx.

⁴⁰ Debts for goods used during illness which may have been selected and applied domestically without consultation with a medical practitioner, are not counted here (eg: payments for asses' milk, for 'necessaries during illness', 'for ale and wine during sickness'). Such debts occur rarely (in just 46 accounts). In every case the account also records other debts for medical or nursing services.

⁴¹ Where the reason for the debt is not clear, 'medical' debts are counted if creditors were physicians, doctors, surgeons, apothecaries, druggists, or chemists. 'Nursing' debts are taken as debts to individuals identified as 'nurse' or 'attendant' and those who are identified as being paid for providing 'nursing' or 'attendance'.

consumption. We need to be cautious about interpreting variation at this level because the categories being discussed encompass quite varied environments, but there are nonetheless clear signs of differences in regional healthcare cultures.

One of the sharpest divides in the English medical economy was between London, with its unique density of practitioners and medical institutions, and the rest of the country. If we separate the sample between those who had lived in London and those from the provinces (figure 3), we can see that most of the increase in medical consumption occurred *outside* the metropolitan area.

INSERT Figure 3: Medical and Nursing consumption, London and Provincial Southern England

In London, levels of medical demand were relatively stable over the century, with around 50 to 60 per cent of deceased recording medical assistance. Provincial accounts, however, show a sharp rise between the 1730s and 1780s. By the 1780s those dying in the provinces appear to have had a higher propensity to resort to medical services than Londoners. This surprising finding may reflect the narrower and increasingly wealthy slice of provincial society whose estates reached the PCC, but the growth in medical consumption was somewhat larger among less wealthy testators in the provinces than among the richer, pointing towards a more general increase in engagement with practitioners.⁴²

Nursing offers much less of a contrast between London and non-London trends. Households' frequency of resort to nursing is consistently around a third higher in London than outside. This suggests that metropolitan households are more dependent on specialist hired care, which seems intuitively plausible given the capacity of the capital to sustain a distinct group of nurses. But both London and the provinces show similar trends in usage, with little sign that the employment of nurses in caring for the sick was increasing in general.

The expansion in provincial demand for medical services that occurred in the later eighteenth century reflects changes in life in small, rural communities, not provincial towns or cities. In part because of the significance of landowners among testators, the provincial sub-group were not primarily resident in towns (although many are of course likely to have spent part of

⁴² For testators with charges of £0-£200, the share with medical debts rose from 37% to 75% between the 1730s and 1780s. For those with charges of £200-£400, it grew from 48% to 64%.

the year in one). If we look only at those living outside towns with a population of over 1,000 people, the increase in medical consumption from 1730 to 1780 was even larger, from 48 to 78 percentage points.⁴³

As one might expect, wealth had a modest but clear effect on the probability that deceased persons owed debts to medical and nursing providers (figure 4). Male deceased with greater wealth were more likely to have consumed medical services before they died than poorer deceased. Richer testators were also somewhat *less* likely to have used nursing services, a difference that was largely the result of choices in provincial households.⁴⁴

INSERT Figure 4: The effect of wealth on levels of consumption

Gender substantially affected peoples' patterns of engagement with medical and nursing services. The relationship between wealth and levels of demand for medical and nursing services for male and female deceased can be seen from figure 5. First, whether richer or poorer, female testators were almost twice as likely to have owed debts for nursing as men. Second, women's consumption of medical services was higher than that of men in the same wealth category in all but one instance. This pattern is similar to that which Mortimer observed in East Kent.⁴⁵

INSERT Figure 5. The effect of wealth and gender on level of demand for medical and nursing services

The distinctive effects of gender and wealth on the use of medical services and nursing indicate clearly that healthcare was not simply a normal good for which consumption would

⁴³ Urban populations were derived from Jan Nov De Vries, *European urbanization 1600-1800* (London: Methuen, 1984). and Peter Clark and Jean Hosking, *Population estimates of English small towns, 1550-1851*, Rev. ed. ed. ([Leicester]: Centre for Urban History, University of Leicester, 1993).. For the 1670s we use De Vries' 1700 estimates; for the 1730s and 1780s, we use his 1750 estimates. For small towns we use the Hearth Tax (1660s-70s) or the 1811 census, biasing the test against over-estimating the rural population by using whichever figure was larger.

⁴⁴ The results also hold if we apply Mortimer's socio-economic ranking (comparing groups A with BCD) rather than dividing the sample at the median charge (£400). Mortimer's ranking is explained in Mortimer, 'Assistance', pp. XXXX.

⁴⁵ Mortimer, *Dying*, pp. 24-7. Again, the results hold if we use Mortimer's socio-economic categorisation.

increase as disposable incomes rose. Peoples' usage of commercial medicine and nursing responded to other factors, particularly the availability and capacity of other sources of assistance within the family and household. That most female testators were widows suggests that household fragmentation led to higher levels of engagement in commercial medical consumption. In other words, whereas men were often cared for by their wives, widows had to purchase nursing assistance.

Were the continuities and changes in consumption we see over the long eighteenth century associated with a change in the amount spent by the deceased on healthcare? The central concern of probate accounts was with the expenditure and debts that could be charged to the estate. Unlike the prices given in probate inventories, there is no reason to assume that executors or administrators would under-estimate or misrepresent the size of the debts with which an estate was charged. Executors were constrained by the threat of a lawsuit for debt against the estate if they did not satisfy its creditors. However, accounts do compress debts, almost never giving prices or fees in a way that can be linked to a particular quantity of goods or services. Obviously, the medical and nursing expenditures recorded in accounts are also still only a proxy for what might actually have been spent.

The average total debt for medical and nursing services in accounts is shown in table 2. Across the sample as a whole, the average (mean) debt for medical and nursing costs was £12. This is dragged up by a few large sums: the median debt was just over £5. A quarter of deceased owed less than £2, while only a third owed over £10, and just a sixth accrued debts of over £20 on medical expenses. The sums spent on medical care were generally not large relative to the estates of the sick. Recall that this is for a population with moveable estates valued at around £400. The sums paid for physic and medicines in the PCC accounts were, however, substantially higher than Mortimer found in East Kent and Wiltshire in comparable periods, reflecting the wealth and metropolitan focus of the PCC sample.⁴⁶

INSERT TABLE 2 near here.

⁴⁶ For comparison, I calculated the average sum per item categorised as 'physic' and used Mortimer's socio-economic categorisation. In 1670, for status groups A, B, & R this was £4 in PCC accounts compared to £1.6 in East Kent and £1.8 in Wiltshire; for status groups C, D, & S this was £3.5 in PCC accounts against £0.9 in East Kent and £1.1 in Wiltshire. For medicines, in 1670, the PCC average is £6.9 compared to £2.2 in East Kent (1660-89). In 1730 PCC medicines average £6.3 against £1.9 in East Kent (1690-1719). Mortimer, *Dying*, pp. 75, 78.

Levels of expenditure increased in nominal terms over the long eighteenth century. Median and mean debts for medical and nursing care rose by around a third over this period. Median expenditure was somewhat higher in London than provincial England, reflecting the city's higher prices and wages, and continued to increase even though the proportion of the deceased who had used medical assistance remained stable.⁴⁷ However, as provincial English propensity to turn to medical assistance approached and then surpassed London's, so the sums expended also converged – providing both a measure of the emergence of a common English culture of medical consumption and a causal explanation for this development, through the incentives this gave practitioners to seek out patients in those areas.

These are nominal figures for expenditure on an unstable array of medical and nursing goods and services. Inflation only affects prices in the later eighteenth century. If we use Allen's consumer price index, derived largely from foodstuffs, to deflate expenditure into 1670 pounds, then mean medical expenditure still grows rapidly in the first half of the eighteenth century, as the price level remains stable. But the emergence of inflation from the 1750s means that the median value of medical debts in the 1780s and 1790s had fallen back to pretty much the same level as in the 1670s in London, although provincial expenditure had still grown even in real terms.⁴⁸ Without more information about the exact mix of medical services and goods being bought, it is hard to interpret these figures, which may reflect changes in the relative price of medical services to food or shifts in the quantity of medical goods and services being purchased. The fragmentary evidence that we possess on wholesale drug prices suggests they are relatively flat over the century, so we might speculate that the rise in debt reflects an expansion in the amount of medicine used.⁴⁹ However, the accounts unfortunately lack the detail necessary to generate a price series.⁵⁰

The amount the deceased spent on medical and nursing care was affected by their relative wealth to a much greater extent than the likelihood they would use medical care at all. Table

⁴⁷ We discuss median expenditure here because the means are affected by a small number of large outliers.

⁴⁸ Median real debts for London were £5.09 in the 1670s and £4.95 in the 1780s; in the provinces, the figures were £3.70 and £4.80, using Allen's CPI. R. C. Allen, "The Great Divergence in European Wages and Prices from the Middle Ages to the First World War," *Explorations in Economic History* 38, no. 4 (2001). Note that using this CPI may overstate inflation for the wealthy because of the heavy weighting given to foodstuffs: P. T. Hoffman et al., "Real Inequality in Europe since 1500," *Journal of Economic History* 62, no. 2 (2002).

⁴⁹ Wallis, 'Exotic Drugs', pp. XX.

⁵⁰ Cf. Mortimer's 'rough price index': *Dying*, pp. 74-76; Loudon, 'Provincial'.

3 breaks down expenditure by the wealth of the deceased. The deceased who fell into the wealthier half of the sample spent on average twice as much on medical and nursing care as their relatively poorer peers.⁵¹ Most of the growth in nominal expenditure occurred in the relatively richer half of the sample; among those with less than the median charge, nominal medical debts were unchanged, implying a fall in debt in real terms.

INSERT TABLE 3 (Expenditure & Wealth) near here.

For the generally wealthy group captured in this sample, there is little sign that medical expenditure ever threatened to consume a large share of a household's resources. The few very large debts are striking in the exceptionality of the care they describe. The largest medical debtor was George James, a London printer, who died around 1735 owing £360 for medical services. Two hundred pounds of this was the cost of extended and intensive surgical care:

“the deceased was for seven years before his death very much troubled and afflicted with a swollen leg and was during such time under the care of Mr William Green a surgeon since deceased and that the said Green did visit and attend on him the said deceased sometimes once and sometimes twice on almost every day during that time in order to dress and take care of such leg”⁵²

The remaining £160 was due to John Markham, his apothecary. Medical expenses equated to 65% of the value of James' estate. It was a major debt, but not all consuming. No other account came close. The next largest debts were £138 from Sir Edward Becher, a former alderman of London, £120 due from the estate of Charles Cornwallis, 4th Baron Cornwallis and paymaster of the forces at the time of his death, and £112 owed by David Drummond's estate.⁵³ Like Green's account, these included debts 'on book', but unlike him, their estates mainly dwarfed these debts. Becher's charge was just £480, but Cornwallis' was £6,967 and Drummond's £7,055. And it must again be emphasised that these large debts are exceptional. For fourth-fifths of the deceased, the total of their medical debts was less than 5% of their

⁵¹ Mortimer observes similar differentials in East Kent: *Dying*, p. 88.

⁵² TNA, PROB 31/182/691

⁵³ TNA, PROB 31/118/461 (Becher); PROB 31/22/320 (Cornwallis); PROB 31/855/757, Drummond. One larger debt, £148 for 'necessaries' in John Skinner's account of 1721 was excluded because it was unknown if this related to necessities during illness and was paid to a relative TNA, PROB 31/1/7.

charge. It is hard not to suspect that historians' emphasis on the consumption of 'vast quantities of medicine' in the eighteenth century is too dependent on exceptional examples.⁵⁴

How do the levels of consumption we observe in the PCC accounts compare to Mortimer's earlier findings for East Kent? Mortimer offers some strong warnings about the risks of directly comparing levels of demand between different jurisdictions with different accounting conventions, and the PCC accounts represent a much wealthier constituency than the Kentish data.⁵⁵ However, given that the PCC accounts share some of the character of the East Kent accounts in the level of detail that they contain, the exercise can at least be attempted. Indeed, when we do put the two series together (figures 6), the results look plausible.

INSERT Figure 6: Medical and Nursing Consumption, PCC London, PCC provincial and Kent.

Source: Mortimer, *Dying*; PCC Sample

Comparing patterns of demand for medical and nursing assistance over nearly two centuries in the southern half of England suggests that growth in medical demand was on-going, but not always continuous, from the mid-seventeenth to the late eighteenth century. There was no end to the 'medical revolution' in this period, making this another rather drawn out historical revolution, and questioning the utility of such terminology. High levels of demand for medical services had occurred earliest in London, as one might anticipate given the size of the city, its wealth, and the abundance of practitioners operating there. Wealthy metropolitan deceased were roughly twice as likely to have used a medical practitioner in the 1670s than their Kentish peers. But London demand had also reached a plateau by the late seventeenth century, at which it remained at over the next century.

Consumption patterns were more dynamic outside the capital. Demand among moderately wealthy deceased in East Kent caught up with wealthy Londoners and the rich in other parts of provincial Southern England in the later seventeenth century, and the Kentish elite may even have been unusually highly engaged with commercial medicine in the early eighteenth century. If we take the PCC provincial accounts as sample of an increasingly wealthy rural

⁵⁴ Loudon, 'Provincial Medical', p. 24 (quotation). Similar views are common in Porter's work, eg: *Patients Progress*, pp. 157-9.

⁵⁵ Mortimer, *Dying*, pp. 46-7.

elite, they suggest that the rate of resort to medical services reached even higher levels by the late eighteenth century.

Levels of demand for nursing services remained at a much lower level than for medical services, although they were around 50 percent higher in the eighteenth than the early seventeenth century. We might see in this some sign that sick nursing emerged as a distinctive occupation, as Mortimer suggested, and together with the gendering of demand for both medical and nursing services it implies the continued importance of domestic provision and household structure in the management of illness in early modern England.

The structures of medical supply: what kind of practitioners did the sick use?

Evidence of the kind contained in probate accounts on changing levels of demand is rare in histories of medicine. Arguments about the relative significance of different types of practitioner are much more common, however. The long eighteenth century is frequently characterised as seeing profound shifts in the importance of different types of medical practitioners. In particular, Loudon has suggested that 'general practitioners' emerged in this period.⁵⁶ Can we observe this shift when we examine the types of practitioners seen by the deceased? And does it help us to explain the changes we see in demand?

To compare the kinds of practitioner in accounts over time, we group occupations into five general categories: physician, surgeon, apothecary, nurse and attendant. Physician includes practitioners identified as 'doctor' and 'physician', with the latter becoming more common over time.⁵⁷ These categories cover 92% of the roughly 1,716 practitioners in the accounts for whom an occupational title was given or implied.⁵⁸ Another 66 individuals were identified with a label that fell outside these five categories, including twelve servants who provided nursing, nine surgeon-apothecaries, thirteen druggists, and four chemists. These 'other' practitioners became more important over time. In the 1670s and 1730s they appear in twelve to fourteen percent of accounts with medical debts; by the 1780s, they appear in 22

⁵⁶ Loudon, *Medical Care*.

⁵⁷ In 1670, if we count only fully-stated occupational labels (eg. 'Dr Smith, the physician', or 'paid the doctor'), 'doctors' make up 53% of the sample and 'physicians' 39%. In 1780 the proportions reverse to 4% and 96%. Cf. Mortimer, *Dying*, p. 72.

⁵⁸ The count of practitioners is inexact because a number of debts are to multiple practitioners (eg: nurses, physicians); we count such plurals as two practitioners. Another 61 individuals had no occupational label and are excluded.

percent. It is worth noting in passing the absence of any less 'orthodox' descriptors, and the small share (61 or 4%) of practitioners without one of these standard titles: to the extent that nomenclature gives a guide to the medical fringe or penumbra, it appears largely absent from these terminal medical encounters.

Constructing these occupational groups asks much of the information on occupations contained in probate accounts. In this period, occupations were not strictly defined identities.⁵⁹ Individuals might represent themselves in multiple ways, as a doctor or an apothecary or a surgeon. This could reflect differences in their activities, but it might not. Second, probate accounts record perceived occupations: the labels that executors attributed to practitioners, which were then filtered through the court clerk. Third, occupational definitions and terminology change over time.

However, we can check the validity of these groupings by considering the types of services and goods associated with practitioners. Around two-thirds of accounts include some details on the debt in question, albeit that these are mostly terse summaries in generic and sometimes opaque language (most other debts just mention the occupation of the creditor).⁶⁰ We coded these based on the appearance of seven common formulations which appear in 93 percent of records with any description of the debt: for 'attendance', for medicines (including any specific drugs), 'for physic', for surgery (including any specific operations), for 'advice', for 'nursing', and 'necessaries and/or diet'.⁶¹ We treat debts for medicines and for physic as a combined group as they appear to substantially overlap in practice.

The details of medical debts points to a surprisingly high degree of occupational specialisation among practitioners. If we look at the proportion of each category of services and goods that were supplied by different types of practitioner (figure 7), specialisation is

⁵⁹ Margaret Pelling, "Occupational Diversity: Barbersurgeons and the Trades of Norwich, 1550-1640," *Bulletin of the History of Medicine* 56(1982); D. B. Haycock and P. Wallis, "Quackery and Commerce in Seventeenth-Century London: The Proprietary Medicine Business of Anthony Daffy," *Medical History* 25(2005)..

⁶⁰ 526 of 793 (66%) of accounts with medical or nursing expenditure include at least one entry containing some details on what was supplied.

⁶¹ 878 of 941. The remaining clusters we observed in debt details appear less frequently: 'visit' (28), 'looking' (16), 'watch' (9), 'sit' (12), 'assistance' (3), 'care' (5), 'prescribing' (9), and a further group of 25 'others', including miscellaneous charges for travel, coach hire, messengers, and lodging. The content and distribution are discussed in the appendix to the WORKING PAPER. We applied these categories inclusively. For example, the statement "for visiting and attending the said deceased and administering physick to him in the time of his sickness" (TNA PROB 5/4470) would be coded for 'visit', 'attending' and 'physic'.

apparent in several key areas. Surgeons supplied 90% of surgery, apothecaries supplied 74% of physic and medicines, and physicians supplied 83% of 'advice'. Possibly the occupational labels assigned to practitioners informed the language of the accounts and vice versa, but this degree of functional differentiation implies that Pelling's emphasis on occupational diversity in medicine, developed for the sixteenth and early seventeenth centuries, may not hold as well for the long eighteenth century.⁶²

FIGURE 7 NEAR HERE

Some support for concluding that medical specialisation had increased can be found in a comparison with Mortimer's finding for East Kent in the previous century. Mortimer did find that advice was closely tied to physicians. However, in East Kent 26 percent of medicines were provided by physicians and doctors, 16 percent by surgeons and 58 percent by apothecaries. The role of apothecaries in Kent in supplying medicines *declined* over the 17th century, from 76 to 54 percent, which Mortimer attributes to the ruralisation of doctors.⁶³ For eighteenth-century London and provincial England, the comparable figures for medicines (excluding debts for physic to match Mortimer's categories) are physicians 4 percent, surgeons 6 percent and apothecaries 90 percent.⁶⁴ For the deceased in the long eighteenth century, medicines were primarily something that apothecaries supplied.

Given the consistency we find between practitioners' occupational labels and the goods and services they provided, it seems reasonable to use occupations to explore what types of practitioners were more or less frequently employed over this period. When we do, we discover that apothecaries are the most common type of medical practitioner in the accounts, appearing in 69 percent of the accounts of those who sought medical assistance – twice the level of physicians, who featured in 35 percent of accounts. This suggests that apothecaries

⁶² Pelling, 'Occupational Diversity'. Specialisation persists if we break the sample into London and provincial accounts. Specialisation appears, perhaps, slightly stronger in London than elsewhere (only physicians offer advice in London, only surgeons supply surgery), but the numbers of observations for these categories are too small to make much of.

⁶³ Mortimer, *Dying*, p. 78 (tab. 35). I focus here on the distribution where an occupation is assigned (he notes 60 without an occupation assigned). Mortimer's sample includes 218 physicians, doctors, surgeons and apothecaries.

⁶⁴ It is not useful to replicate Mortimer's comparison of the sale of medicines or 'physic and advice' (*Dying*, p. 80, tabl. 36) as that formulation only appears in 6 PCC probate account debts. However, if we took all instances of either physic or advice, apothecaries still dominate, supplying 85% of entries in the PCC accounts. By comparison, they supply 29% of medicines or 'physic and advice' in the Kent accounts.

were the first port of call for the sick. When the deceased had debts to just one identifiable practitioner, it was an apothecary in 59% of cases.⁶⁵ Surgeons were much rarer, appearing in a sixth of accounts. Nurses appeared in a third of accounts. Attendants are identified in one in twenty accounts, but this is a much less precisely defined category than any of the others.

In contrast to the emphasis that has been put on the openness of the eighteenth century medical marketplace, most of the deceased had ties to a limited number of medical practitioners. Those who used medical assistance mostly favoured one individual in any category of practitioners rather than consulting with multiple doctors or surgeons. Around three quarters of those deceased who had seen doctors owed debts to a single physician; just a quarter owed debts to two physicians. Similar proportions hold for apothecaries. Moreover, over the period there was a fall in the average number of different practitioners used by the deceased. In the 1670s, the deceased recorded debts to an average of 2.5 different medical and nursing practitioners. By 1780, this had fallen to 1.9 different medical and nursing practitioners.⁶⁶ Neither figure suggests that calling in 'tribes of doctors' was a commonplace event.⁶⁷

The mix of occupations of the practitioners we see in the accounts is also markedly different to that suggested by the existing literature. Three points stand out. First, surgeons play a surprisingly limited role in a time traditionally identified with their 'rapid rise'.⁶⁸ For East Kent, Mortimer observed a markedly different medical mix, dominated by surgeons (46%) and doctors (42%), with apothecaries as minor players (12%).⁶⁹ Even if we distinguish

⁶⁵ The remaining practitioners were: nurse, 17%; physician, 10%; surgeon 6%; attendant, 2%; unknown, 7% (n = 311).

⁶⁶ This includes uncategorised medical practitioners as well as attendants, nurses, etc. If we restrict the estimate to the main grouped medical practitioners (apothecaries, physicians and surgeons), the figures are 1670, 1.9; 1730, 1.6; 1780, 1.4 (a decline of 25%). These figures are probably under-estimates because we count plural practitioners as two individuals.

⁶⁷ Porter and Porter, *Patients Progress*, p. 79 (quote)

⁶⁸ A. M. Sir Carr-Saunders, *The Professions* (London: Frank Cass & Co., 1964), p. 74; Loudon, *Medical Care*, pp. 24-28.

⁶⁹ Calculated from Mortimer, *Dying*, p. 69 (tab. 33). Mortimer reports the distribution of 417 practitioners named in accounts. This distribution I give in the text is for the 330 practitioners within these categories. It excludes other categories (n=22) and unknown (n=65). Mortimer's data differs slightly from those I give for the PCC samples. His is based on distinct individuals observed across his account sample. The PCC data reports the type of practitioner per deceased, and so may double count a handful who appear in more than one account.

between metropolitan and provincial accounts in the PCC sample, the difference with East Kent persists. Possibly this reflects the wealth of the PCC sample, but surgeons were actually used more frequently by richer testators.⁷⁰ Rather, East Kent may well have possessed a relatively unusual density of surgeons, reflecting the coastal, trading orientation of the county. Second, it is also striking that there is not a single direct reference to a barber surgeon in the PCC accounts, despite the fact that over two-thirds of accounts were for people dying in London where the guild of Barber Surgeons remained united until 1745: lay terminology appears to have firmly distinguished the language of occupation from that of the guild in the city. Finally, accounts record a surprisingly small number of surgeon-apothecaries for a period often identified as their heyday. Their dominance (82%) among practitioners in the *Medical Register* of 1783 is not paralleled in the accounts.⁷¹ Instead, executors continued to prefer the older categories, keeping apothecaries distinct, suggesting that historians may have been too heavily influenced by the decision of the *Register's* compiler, the physician Samuel Simmons, to group surgeons and apothecaries together.⁷²

Only one group of practitioners declined in popularity among the sick over the long eighteenth century: physicians. The share of accounts reporting any medical care which included debts to physicians fell markedly, from 52 percent in the 1670s to 15 and 20 percent in the 1730s and 1780s samples. In contrast, the share using apothecaries, surgeons or nurses remains broadly stable. The physicians' decline is sharpest in the provincial sample, where the percentage plummets from 67 to 21 percent between 1670 and 1730.⁷³ Given that the share of provincial deceased who used medical practitioners is rising, this is surprising. There is no expansion in the use of other kinds of practitioners.

The physicians' downfall was a change in the combinations of different types of practitioner used by the deceased. In the late seventeenth century, 44% of the deceased owed debts to

⁷⁰ Surgeons were present in 21% of accounts with medical debts and a charge over £400 and 13% of comparable accounts with charges below £400.

⁷¹ Joan Lane, "The medical practitioners of provincial England in 1783," *Medical History* 28, no. 4 (1984). Digby, *Making a medical living: doctors and patients in the English market for medicine, 1720-1911.*, pp. 107-8; Loudon, *Medical Care*, pp. 24-27.

⁷² We can trace 47 of the practitioners in the 1780s sample in the *Medical Register*. Of these, only two have a mismatch between occupational titles. Both are listed in the corporation of surgeons, but one is 'Dr' the other is an apothecary in the accounts: Samuel Simmons, *The medical register for the year 1783* (London: printed for Joseph Johnson, 1783).

⁷³ In 1780, the physicians' share is 20%.

more than one kind of medical practitioner.⁷⁴ By the 1780s, this had fallen to 18%. One major development drove this change: a move away from using a physician and an apothecary together (figure 8). The largest change occurred in the provinces, where the proportion of accounts reporting a physician and apothecary fell from 33% to 12% from 1670 to 1730, and then to 6% in the 1780s. In London, the fall was from 25% to 8%, followed by a recovery to 10% in the 1780s.⁷⁵ Given that the wealthy were more likely to use more than one type of practitioner, and the wealth of the sample rises over time, this shift is likely to be under-stated.⁷⁶

INSERT Fig. 8. Frequency of combinations of practitioners in 'medical' accounts

Over the long eighteenth century, the dying turned from engaging directly with a range of specialised medical practitioners to using a single practitioner as their main source of assistance. They abandoned the classic tripartite model of medical practice in which physician, surgeon and apothecary operated as specialists who combined to offer care, but who each maintained a direct relationship with the sick. By the 1730s, tripartite practice was a rarity. In many cases, the remaining practitioner, usually an apothecary, would presumably supply advice, medicines and treatments. The sick's willingness to concentrate their care in the hands of a smaller number of practitioners over this period likely resulted in growing incomes for individual practitioners. We can see further evidence for this change if we look at which practitioners are described as having 'attended' or 'visited' the sick over different

⁷⁴ Based on categorising practitioners into three groups: physicians, surgeons and apothecaries. The trend is robust to (1) including the minority of non-categorised practitioners. If we assumed that all non-categorised practitioners represented a further, different type of practitioner (to maximize the impact), the percentage of deceased using more than one practitioner falls from 49% to 23% from 1670 to 1780; and (2) to accounting for debts for drugs which don't have a practitioner associated with them in the records, as this only occurs rarely (5 accounts in total).

⁷⁵ The sample sizes were London: 1670, 126; 1730, 131; 1780, 133. Provincial: 1670, 81; 1730, 51; 1780, 91 accounts.

⁷⁶ Over the full period, 39% of the wealthiest half of testators reporting medical expenses used >1 type of practitioner (n=350) against 28% of the poorer half (n= 296). If we use Mortimer's categories, the share with >1 type of practitioner are 36% of category A deceased (n = 442), against 30% of categories B,C and D (n = 125). Both show similar shifts to using a single type of practitioner: among testators with charges over £400, the share falls from 58% to 26%; for testators with charges below £400, it fall from 39% to 22%.

period. As table 4 shows, apothecaries increasingly attended the sick in person over the eighteenth century.⁷⁷ In short, apothecaries became general practitioners.

INSERT TABLE 4 NEAR HERE

It is difficult at first sight to reconcile this account of physicians' displacement by apothecaries operating as general practitioners with the evidence of occupational specialisation contained in the texts of debts. But arguably it was the apothecaries' specialisation in providing medicines and drugs that was the key to their success in appropriating the physicians' domain. As therapeutics obtained an ever more central place in patients' expectations of medical strategies, the apothecaries' shop gave them a site in which they could demonstrate their expertise, secure a living from goods as well as services, and – quite naturally – extend their remit to offering advice alongside drugs. The apothecaries' tactics could not easily be imitated by physicians seeking to retain some separation from 'trade' and manual arts, and had long been attracting abuse from physicians.⁷⁸

The accounts suggest that the early eighteenth century that saw the close of a major reorientation in the working relationships of medical practitioners. Physicians and apothecaries converged to offer similar, rather than complementary, medical services, and so to compete directly. Indeed, this shift may have produced a rise in the productivity of practitioners that helped meet the rise in demand. This chronology fits well with histories of institutional and legal conflicts over practice of this period, conflicts that came to their head in the Rose case of 1704 through which the College of Physicians attempts to bar apothecaries from providing medical advice were finally frustrated.⁷⁹ However, before taking this as a vindication of Holmes' thesis that the medical profession emerged between 1680 and 1730, it should be emphasised that deceased who had used a combination of practitioners

⁷⁷ In Kent, apothecaries were rarely recorded attending patients. There is no evidence in the PCC accounts that levels of attendance by practitioners differed by wealth of deceased, but this may reflect the wealth measure. Cf. Mortimer, *Dying*, pp. 88-89.

⁷⁸ P. Wallis, "Consumption, retailing, and medicine in early-modern London," *Economic History Review* 61, no. 1 (2008).. For earlier disputes on apothecaries' practice, rooted in similar processes: P. Wallis, "Plagues, Morality and the Place of Medicine in Early Modern England," *English Historical Review* 121, no. 490 (2006).; Cook, *Decline*; Loudon, *Medical Care*, pp. 20-21.

⁷⁹ Harold J. Cook, "The Rose case reconsidered: physicians, apothecaries and the law in Augustan England," *Journal of the History of Medicine* 45, no. 4 (1990). Cf. Loudon, *Medical Care*; Digby, *Medical Living*, who both suggest this transition occurred later.

were *already* in the minority in the 1670s, implying that the process was already well under way, as I have argued elsewhere.⁸⁰

Conclusions

An initial – and necessarily provisional - answer to the question we began with about when the English came to rely on commercial medical care appears reasonably clear. The probability that the sick would turn to a medical practitioner rose substantially over the long eighteenth century in southern England, at least among the relatively wealthy. London had led the shift towards regular and heavy usage of commercial medical provision. Demand was high but stable in the city from the 1670s. Provincial consumption converged with and then exceeded metropolitan levels over the century. The use of nursing assistance expanded as well, but remained much less common. In both town and country, the amount spent on medical and nursing care also went up, perhaps due to rising prices, but more likely because of the dying's more intensive use of paid-for medical and nursing services. The medical revolution that Mortimer identified in the seventeenth century ran on through the eighteenth, as the habit of turning to medical practitioners diffused across the small towns and countryside of England. Moreover, the intensity of medical consumption we see in London may point to an earlier starting point for growth than the sources for Kent suggest. The PCC accounts are limited to wealthy, southern English society, but with that caveat in mind they reveal a convergence in patterns of consumption that signals the development of a national medical culture.

With growth came structural changes in the medical sector. The sick now relied on a single general practitioner rather than an array of different specialists. The tripartite model that combined different specialist practitioners on a case visibly dwindled in the early eighteenth century. In its place, single practitioners now acted as generalists. This approach is well suited to responding to expanding demand for care. Indeed, as each of the sick consulted fewer practitioners, this may have allowed a growth in the productivity of medical practitioners that meant that rising demand could be absorbed with a proportionally smaller expansion in supply. That it was apothecaries that dominated the new mode of practice in part reflects the greater role that medical substances were playing in medical exchanges. That this

⁸⁰ Geoffrey Holmes, *Augustan England: professions, state and society, 1680-1730* (London: George Allen & Unwin, 1982).. Cf Loudon, *Medical Care*. Wallis, 'Competition and Cooperation'.

shift is apparent among the richest echelons of society strongly suggests that the rise of general practice was not (just) a consequence of the growth of the middling sort.

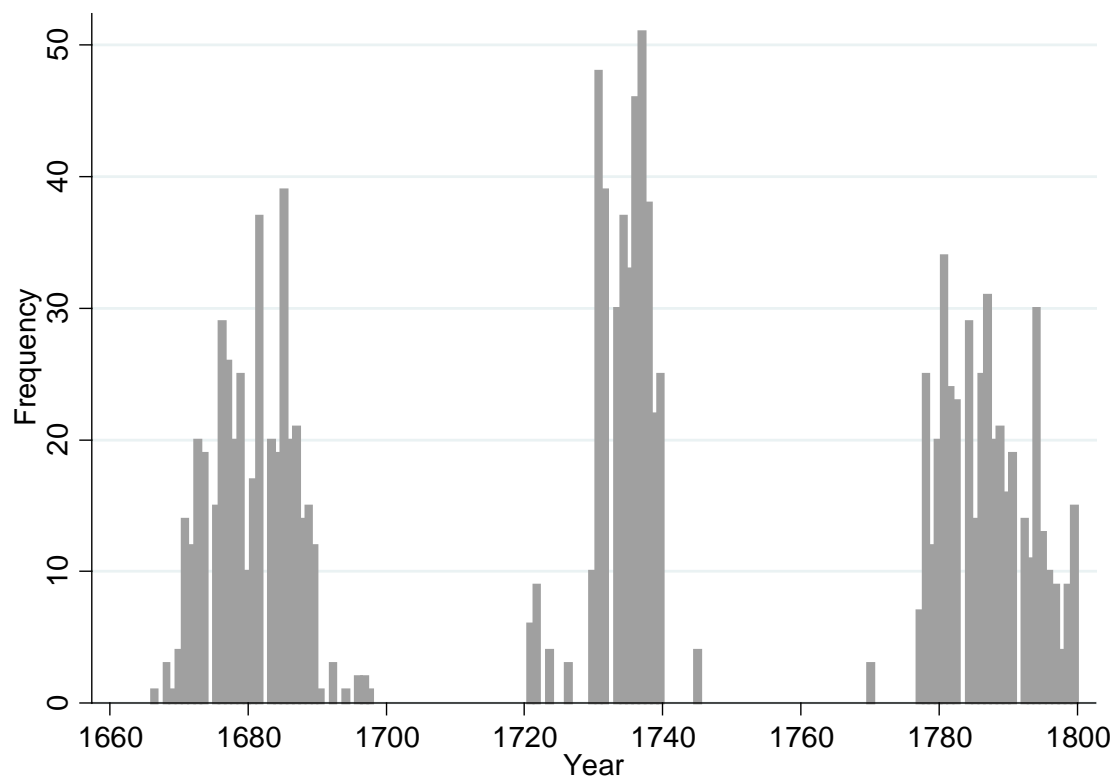
It is easy to read into this an argument that practitioners displaced domestic provision. However, it is not at all clear that this occurred. That higher levels of demand for medicine and nursing care were found among women than men suggests that the availability of domestic care continued to affect the likelihood that the sick would use commercial care; commercial practitioners could substitute for household provision. But it is also possible that commercial resources could complement domestic care, and encourage a wider and more frequent engagement with self and family care. The expanding literature on domestic medicine and medical knowledge generally reveals a close interaction with commercial practitioners, not an opposition.⁸¹

Why demand for medicine changed is a far more difficult challenge than demonstrating that change occurred. We have not been able to explore Mortimer's hypothesis about the ruralisation of medical practitioners, or the potential impact of hospitals or training on practitioners' identity, confidence or position, factors that Loudon and Holmes highlight.⁸² And unfortunately, there is no way to identify changes in the method, techniques or capacities of medicine from the accounts, although there is little *prima facie* reason to expect that either efficacy or the burden of sickness contributed substantially to these developments. However, it is still possible to suggest some partial answers to this question. First, urban, particularly metropolitan, society played a leading role in embracing commercial medical provision. If we combine this with the potential for the periodic urban experiences of the elite, during their education and later through the season, to spread new norms in response to illness across the country, we have a solid case for the significance of urban development in changing attitudes to healthcare (and potentially services more generally), and a plausible mechanism for their transmission. Second, the social biases that limit the PCC accounts also make a compelling argument for seeing the expansion in medical consumption they reveal as a product of changes in preferences, not resources or wealth. While the wealthiest testators spent more on healthcare, there is little reason to believe that even the poorest of deceased in our sample in

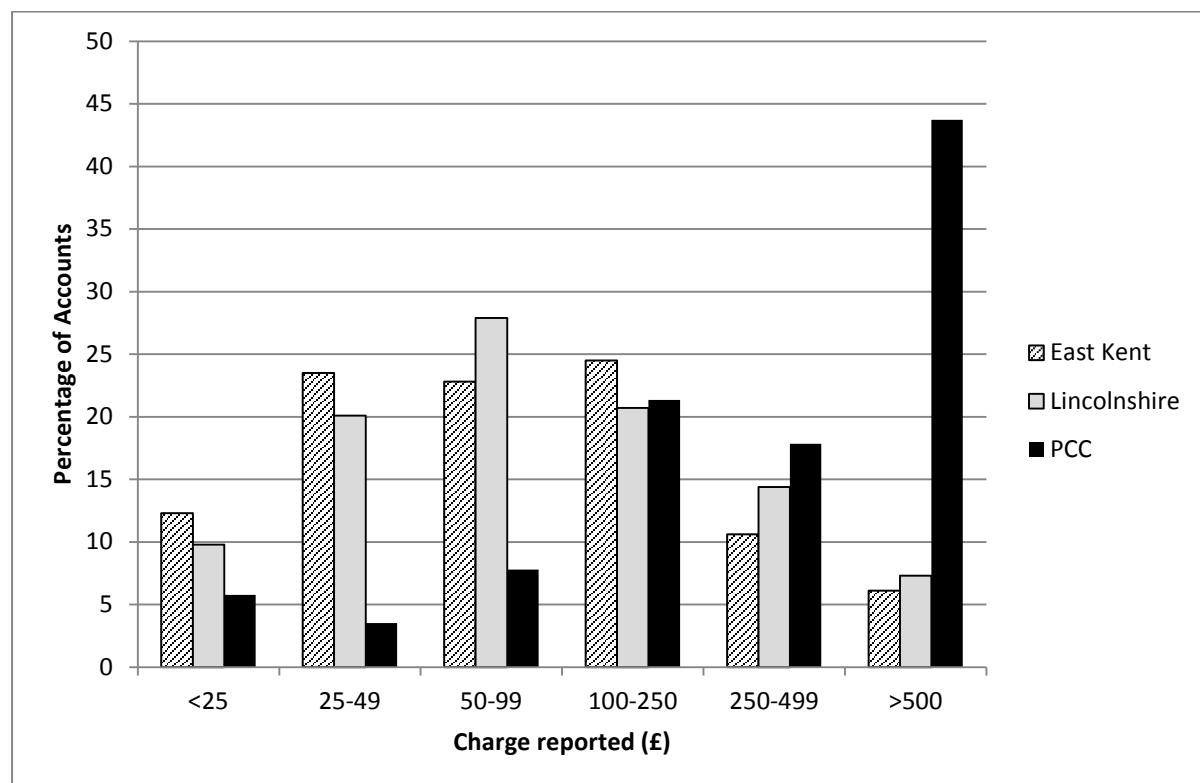
⁸¹ E. Leong, "Making Medicines in the Early Modern Household," *Bulletin of the History of Medicine* 82(2008); Elaine Leong and Sara Pennell, "Recipe Collections and the Currency of Medical Knowledge in the Early Modern "Medical Marketplace"," in *Medicine and the Market in England and Its Colonies, C.1450-C.1850*, ed. Mark Jenner and Patrick Wallis (Basingstoke: Palgrave, 2007).

⁸² Loudon, *Medical Care*; Holmes, *Augustan England*; Mortimer, *Dying*.

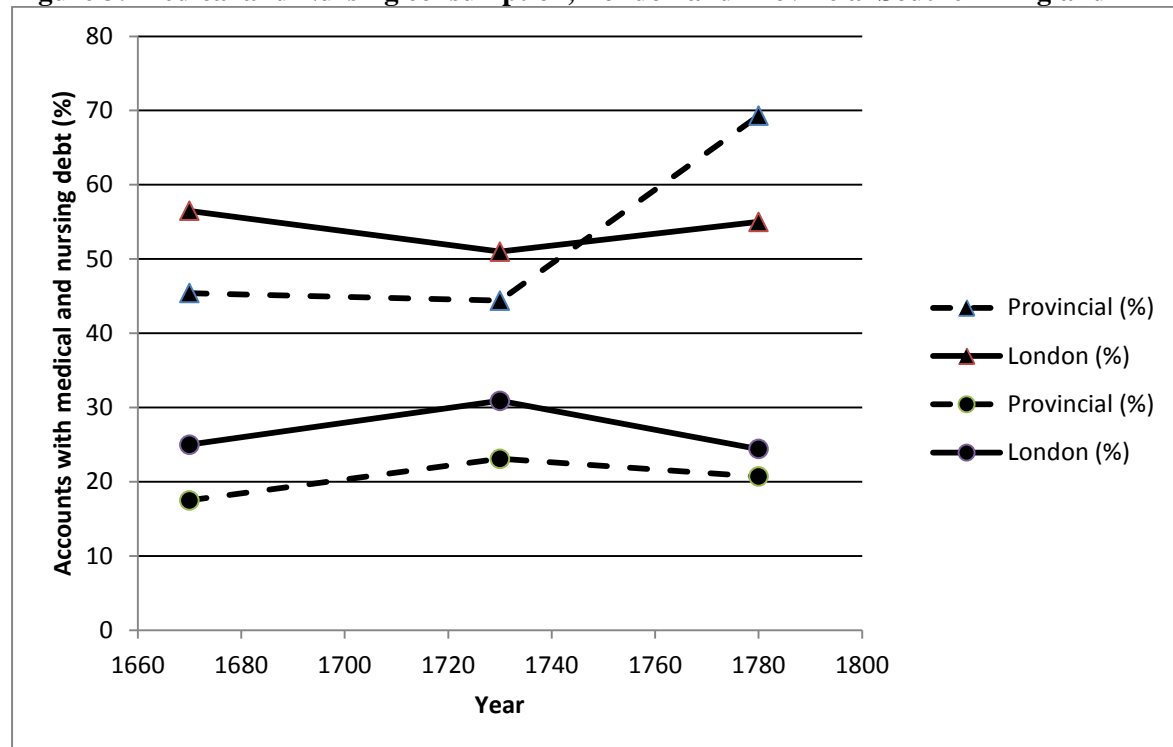
the 1670s would have struggled to afford some form of commercial medical care, if they had desired it. Perhaps supply mattered. But the compelling body of research demonstrating an abundance of practitioners across much of England that we surveyed at the beginning of our discussion suggests that accessing practitioners was unlikely to be a binding constraint. The rise of what we might call the medical habit was, in short, a matter of taste.

TABLES AND FIGURES**Figure 1: Accounts per year in the sample**

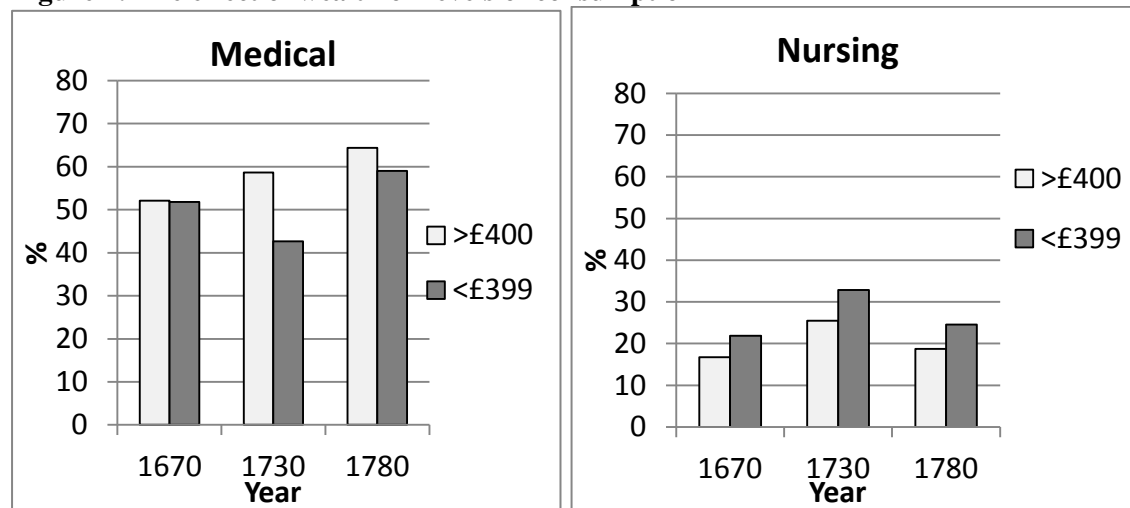
Source: The National Archives, PROB 5, PROB 31, PROB 32.

Figure 2: Charges in Lincolnshire, East Kent and PCC Accounts, 1670s

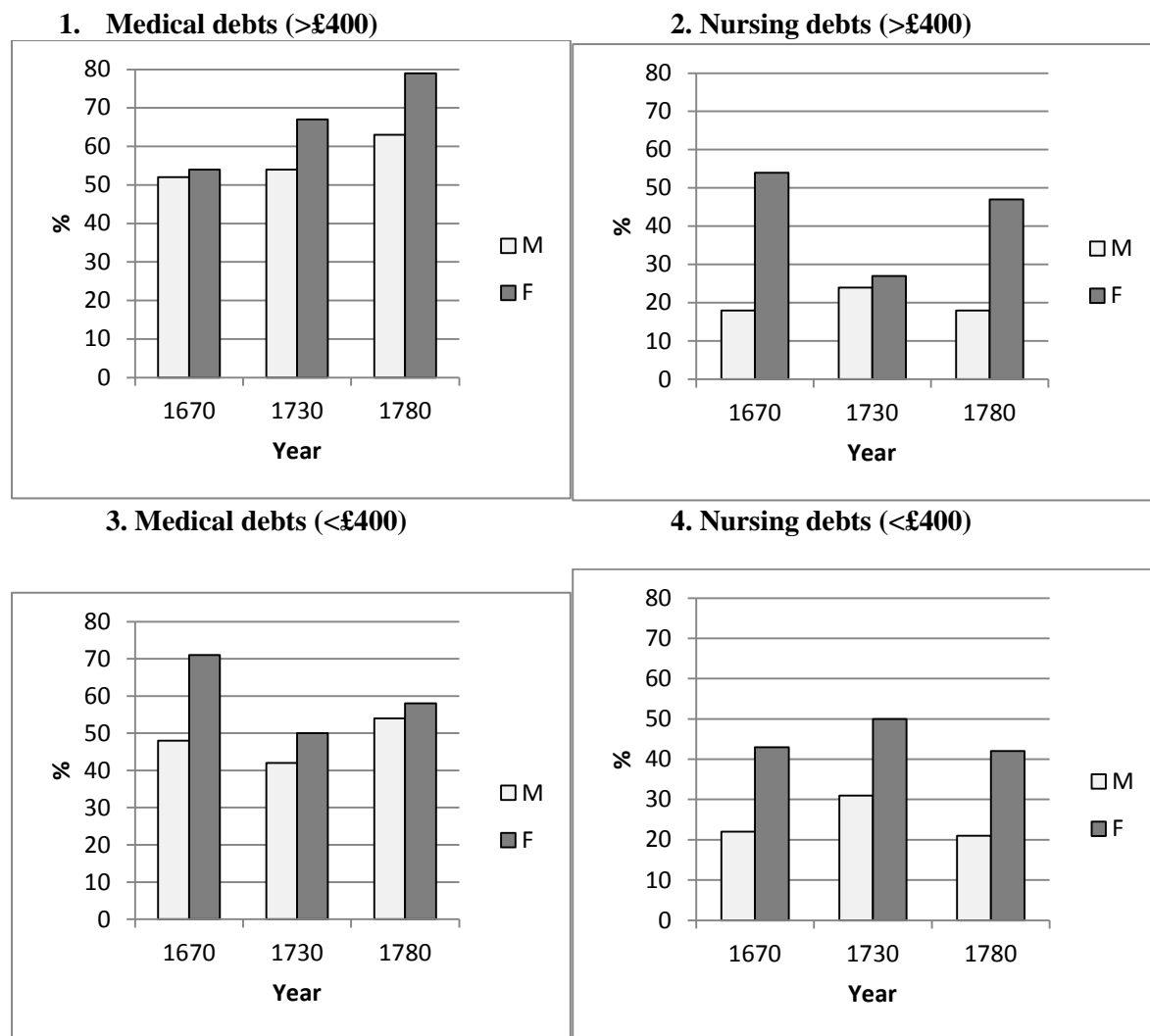
Source: PCC sample (see text); Mortimer.

Figure 3: Medical and Nursing consumption, London and Provincial Southern England

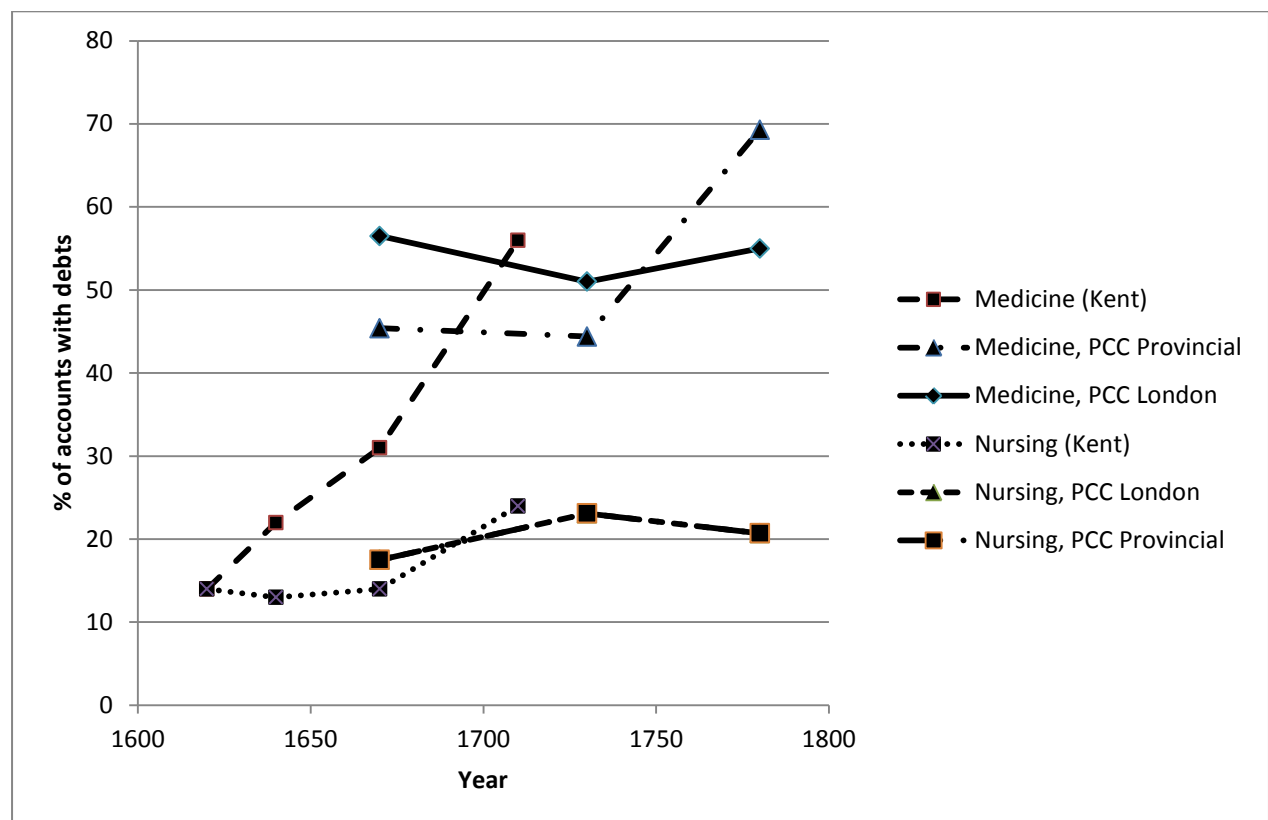
Note: sample is all 'detailed' accounts.

Figure 4: The effect of wealth on levels of consumption

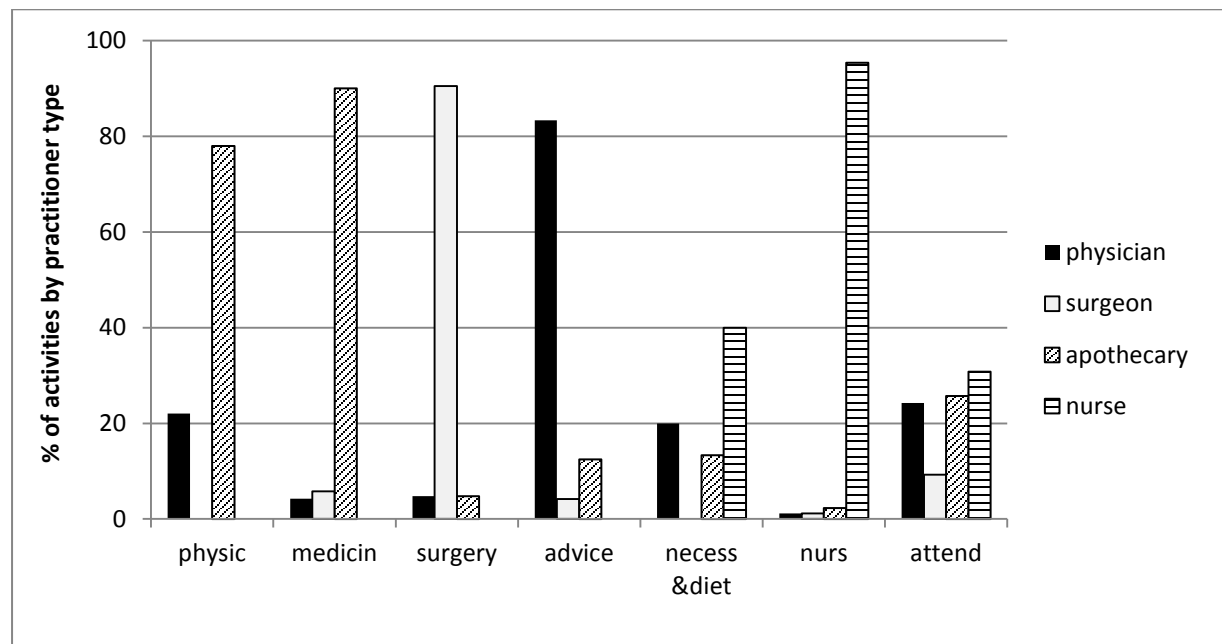
Note: sample is 'detailed' accounts by male testators.

Figure 5. The effect of wealth and gender on level of demand for medical and nursing services

Note: sample is 'detailed accounts' (see text).

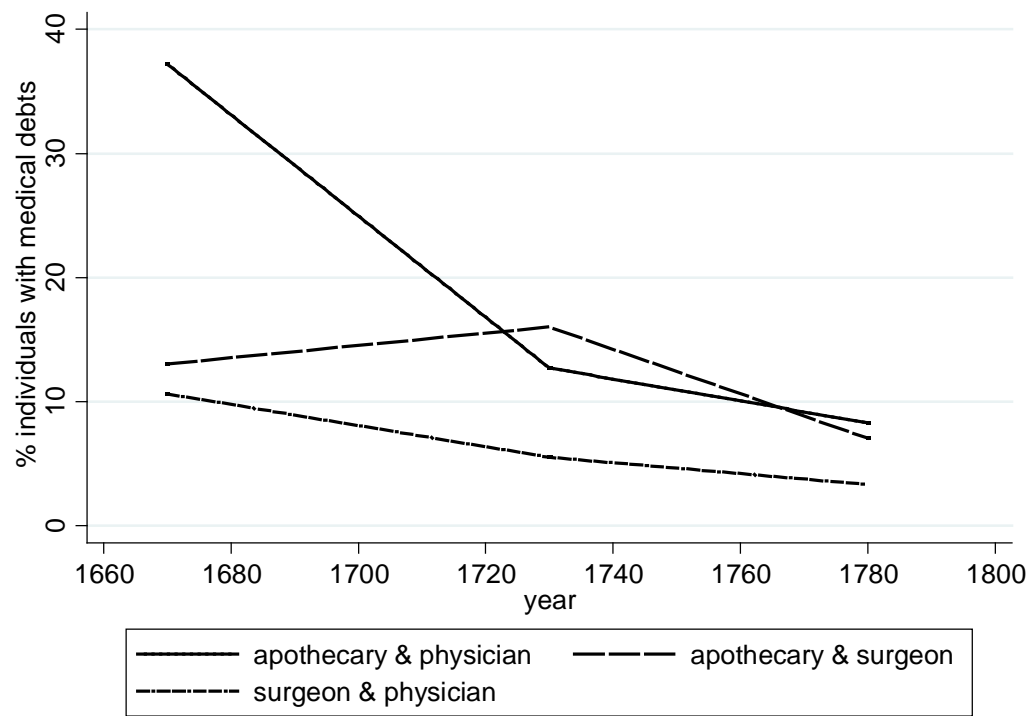
Figure 6: Medical and Nursing Consumption, PCC and Kent.

Source: Mortimer, *Dying*; PCC sample (see text)

Fig. 7. Distribution of activities between practitioners

Note: 'attendants' are excluded for reasons of space. They supplied 10% of 'attendance' and 27% of necessities and diet, but appeared in no other category.

Source: PCC sample.

Fig. 8. Frequency of combinations of practitioners in 'medical' accounts

Source: PCC sample.

TABLE 1: Demand for medical and nursing services

	All Accounts				Detailed Accounts			
Period	Medical or nursing (%)	Medical (%)	Nursing (%)	N	Medical or nursing (%)	Medical (%)	Nursing (%)	N
1670	55	51	22	424	61	56	24	339
1730	58	49	28	377	62	52	31	322
1780	66	60	23	408	73	65	26	342
All	60	54	24	1209	65	58	27	1003

NB: Excludes deceased abroad; Detailed is restricted to accounts with funeral information

TABLE 2: Total medical and nursing charges in accounts

		All		London		Provincial	
	N Accounts	Mean (£)	Median (£)	Mean (£)	Median	Mean (£)	Median
1670	226	9.3	5.0	9.1	5.3	9.8	3.7
1730	216	12.5	5.1	12.5	5.5	12.7	4.5
1780	263	12.4	6.4	13.7	6.6	10.5	6.3
All	705	11.7	5.4	11.9	5.5	10.8	5

Note: table reports average total of medical and nursing debts in accounts. Where these are combined with non-medical goods they are excluded.

Source: PCC sample.

Table 3: Expenditure and wealth of the deceased

	Median (£)		Mean (£)		N deceased	
	>£400	<£399	>£400	<£399	>£400	<£399
1670	7.6	3.4	12.3	5.9	108	108
1730	6.3	3.2	18.0	7.1	107	105
1780	8.4	3.2	16.1	8.0	135	104
All	7.7	3.3	15.5	7.0	350	317

Note: table reports average total of medical and nursing debts in accounts. Where these are combined with non-medical goods they are excluded.

Source: PCC sample.

TABLE 4: 'Attending' or 'visiting' the sick

	Apothecary (%)	Physician (%)	Surgeon (%)	N
1670	23	65	12	43
1730	35	43	22	54
1780	47	40	13	112

The table reports the distribution of items mentioning 'attendance' or 'visit' in each period for which a medical practitioner type can be associated; i.e. in 1670, 26 items (from an unspecified number of accounts) mention 'attendance' and a practitioner and of these 31% are apothecaries. Note that a single account may supply more than one item in which a practitioner is identifiable as attending the deceased. Only items with a single type of practitioner are included.

Source: PCC sample.

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Appendices:

Appendix 1: coding language for medical and nursing services.

The coding and distribution of different types of services and goods by period is described in table 12. The most common item was 'attendance', which makes up over a third of all descriptions observed and seemingly becomes more common over time.⁸³ This category represents a relatively narrow range of statements along the lines of the payment in 1787 to Alexander Mearns, surgeon apothecary, 'for attending the said deceased in his last illness'.⁸⁴

The second most common items in the accounts were payments for medicines. These rarely say more than that the debt was 'for medicines'. However, this category also includes the few payments for 'drugs' or specific items, such as a debt for 'woodlice herbs and snails which were ordered and taken by the said deceased in hopes of relieving him under his consumptive illness'.⁸⁵

Payments 'for physic' also appear frequently. This category is restricted to explicit statements about 'physic'. While 'physic' was used as a term for all of medicine in this period, the accounts appear largely to treat physic as synonymous with medicines. This is explicit in debts for 'administering physic', 'for physic used by' the deceased, in entries 'for physic from London' or elsewhere, where payments for 'lodging, diet and physic' run together, and where 'physick and advice' are specified separately. It is also strongly suggested by one of the changes over the eighteenth century: in the 1670s, 32% of account items were 'for physic' and just 7% for medicines; by the 1780s debts 'for physic' appear in 1% of account items, while medicines now turn up in 40%. One obvious reading of this would be that language shifted from one term to the other. Aside from this, the lay language of medical and nursing care was not changing greatly, at least at this level of abstraction.⁸⁶

⁸³ Porter and Porter, *Patients Progress*, p. 123-4; Mortimer, *Dying*, pp. 89-90.

⁸⁴ 31/1781_90/31/764/384

⁸⁵ 31/723/854.

⁸⁶ As well as comparability with Mortimer's analysis, there is one other reason to hesitating before bundling the two together: physicians are associated with 16% of the charges 'for physic' but only 3% of those 'medicines', while surgeons are never identified as offering physic, just medicines. This may, however, reflect the change in the types of practitioners the sick used over the period. Physicians were becoming less important, as 'medicines' becomes a more common term.

After these major categories comes a tail of much less common entries that appear too rarely to suggest much about trends over time. Surgery is a relative hodgepodge, covering all payments for surgical services which otherwise fragment into a small constellation of specifics – bleeding, curing legs and arms, reducing ruptures.⁸⁷ Surgery is, it should be noted, the only type of medical and nursing service where this kind of detail is given in the accounts. 'Advice' includes only entries where 'advice' is the word employed. Payments for 'nursing' are also defined tightly, with alternative language (keeping, watching, sitting, looking to) regarded as distinct.⁸⁸ I also report payments for 'necessaries and diet' here, for comparability, and this small category mainly describes foodstuffs and domestic goods for the deceased. The 'other' category includes less frequent items, such as watching, sitting, caring, diet, visiting, prescribing, keeping and looking after.

Group	Examples of language
Physic (102)	'for physic(k)' (82), 'for administering physick'; 'for physic taken', 'for physic used'; for physic administered'; 'for prescribing physic'; 'for physic in the sickness of'; 'physick for the deceased' (note: 'physic and other things' is just coded as physic)
Medicines (165)	'for medicines' (141), 'for physical herbs'; 'apothecary's medicines'; 'for drugs'. Also for specific items ('conserve of roses', for 'woodlice, herbs and snails'). At present this includes 'administering medicines', which is closer to 'for physic' and appears once and 'for medicines administered', and also 'with physic
Surgery (27)	For surgery; for bleeding; for 'dressing' a leg; for 'blistering'; for 'curing...her leg'; 'for curing her broken arm'; 'tapping for the dropsy'; 'reducing his rupture', For assisting the deceased's mouth.
Advice (21)	'for advice'; 'for medicines by him advised'; 'for attending and advice'; 'for advice, trouble and attendance', 'for advice about the deceased's sickness'; 'for advice and prescriptions'

⁸⁷ As a result, it is shaped both by my own sense of the content of 'surgical' practice and by the set of practices that surgeons are described as carrying out in the accounts (16 of the 24 surgery entries were associated with surgeons in the account). This category, then, has some degree of circularity – occupation and code inform each other.

⁸⁸ This limits comparability to Mortimer, so may need to be changed later.

Necessaries & diet (17)	'necessaries for the ...deceased in his sickness'; 'meat, drink and other necessities'; 'for necessary things'; 'for wine and other necessities'; 'some small necessities for the deceased', for 'diet'. Includes payments for food and drink, such as asses milk, wine, ale, oranges and lemons.
Nursing (76)	'for nursing'; 'assisting the nurse'
Attendance (293)	'For attendance' (129); 'for attending' (107); 'for attending the deceased'; 'for assisting'; tending; 'women that attended upon the deceased'

Note: the frequency of appearance of the most common phrases are indicated in parentheses.

Appendix 2: Supplementary Data**Table A1: Charges in probate series (used in figure 2)**

charge	PCC	PCC	East Kent	Lincolnshire
£	N	%	%	%
<25	23	5.8	12.3	9.8
25-49	14	3.5	23.5	20.1
50-99	31	7.8	22.8	27.9
100-250	85	21.4	24.5	20.7
250-499	71	17.8	10.6	14.4
>500	174	43.7	6.1	7.3
N	398			

Table A2: London and Provincial demand (used in figure 3)**A: medical services**

	All Accounts				Detailed Accounts			
	Provincial (%)	N	London (%)	N	Provincial (%)	N	London (%)	N
1670	45.4	183	56.5	232	53.4	146	53.4	187
1730	44.4	117	51.0	259	47.5	101	53.6	220
1780	69.3	150	55.0	258	76.2	126	59.3	126

B: Nursing

	All Accounts				Detailed Accounts			
	Provincial (%)	N	London (%)	N	Provincial (%)	N	London (%)	N
1670	17.5	183	25.0	232	20.5	146	26.2	187
1730	23.1	117	30.9	259	25.7	101	34.1	220
1780	20.7	150	24.4	258	24.6	126	26.9	126

NB: Excludes deceased abroad; 'Detailed' accounts are restricted to accounts with funeral information.

Table A3: **Wealth and Demand****Wealth measure 1: sample split at median charge**

	N		Medical (%)		Nursing (%)	
<i>All</i>	>£400	£0-399	>£400	£0-399	>£400	£0-399
1670	190	181	50	44	16	19
1730	166	167	54	42	23	30
1780	185	146	61	53	17	21
<i>Detailed</i>						
1670	167	137	52	52	17	22
1730	145	143	59	43	26	33
1780	160	122	64	59	19	25

Note: This measure splits the sample at near the median charge (£400) and includes only male deceased dying in England. The 'detailed' category is restricted to accounts with funeral information.

Wealth measure 2: Mortimer's categories

		All Accounts			Detailed Accounts		
	Wealth Category	N	med (%)	nurse (%)	N	med (%)	nurse (%)
1670	A	283	50	18	240	54	19
	BCD	91	47	23	63	59	30
	R	30	67	53	25	68	52
	S	11	64	27	8	75	38
1730	A	238	53	25	208	57	28
	BCD	97	35	33	81	36	36
	R	28	64	43	25	68	44
	S	7	29	29	6	17	33
1780	A	254	64	18	216	67	20
	BCD	78	51	24	67	55	28
	R	41	68	46	38	74	50
	S	2	50	0	0		

NB: Excludes deceased abroad; Detailed is restricted to accounts with funeral information. Sample size is slightly reduced as not all accounts include information on charge. Mortimer's ranking of statuses is: 'A', accounts of men with a charge of greater than £200 or of knights or gentleman; 'B' as charges of £100-199 or esquire; 'C' as charges of £40-99 or clerk, yeoman or doctor; and 'D'; as

charges of £0-39. For women, he divides between 'R' with charges of greater than £100 and 'S' with charges below.

Table A4: Wealth & Gender, median charge (used in figure 5)

	N		Med (%)		Nurse (%)	
	M	F	M	F	M	F
All Accounts						
>£400						
1670	190	13	52	54	18	54
1730	166	15	54	67	24	27
1780	184	19	63	79	18	47
All	540	47	56	68	20	43
£0-399						
1670	181	28	48	71	22	43
1730	167	20	42	50	31	50
1780	146	24	54	58	21	42
All	494	72	48	61	25	44
DETAILED Accounts						
>£400						
1670	167	11	54	45	19	45
1730	145	14	59	71	27	29
1780	159	18	67	83	20	50
All	471	43	60	70	22	42
£0-399						
1670	137	22	56	82	25	50
1730	143	17	43	47	34	53
1780	122	20	60	65	25	50
All	402	59	52	66	28	51

TABLE A5: Distribution of activities between practitioners (figure 7)

	physic	medicine	surgery	advice	necessaries	nursing	attendance
physician	22	4	5	83	20	1	24
surgeon	0	6	90	4	0	1	9
apothecary	78	90	5	13	13	2	26
attendant	0	0	0	0	27	0	10
nurse	0	0	0	0	40	95	31
N	118	190	21	24	15	87	334

The table reports the distribution of specific activities between different kinds of practitioner. For example there are 118 reports of payments 'for physic', of which 22% are to physicians and 78% to apothecaries. To avoid misattributions, this table reports content statements only where a single type of practitioner is associated with an entry, giving a smaller sample size to table 11.

TABLE A6: Combinations of types of practitioner used by deceased (figure 8)

	(a) No. of types used (%)		(b) Combinations used (%)			
	1	>1	Phys. + Apoth.	Surg. + Apoth	Phys. + Surg.	N
1670	57	43	37	13	11	207
1730	73	27	13	16	6	181
1780	83	17	8	67	3	241

Note: Table reports (a) the percentage of testators using medical assistance who use one or more than one type of practitioners, and (b) the percentage of testators using medical assistance who used these respective combinations of practitioners. Only practitioners who could be identified with these specific types of medical practitioner (physician, surgeon & apothecary) are counted here.